



Validation of a Cross-Linguistic Pictorial Socioeconomic Status Instrument for Illiterate and Diverse Global Populations in the Technological Age

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This review verifies the reproducibility of the exhibits included in the paper “*Validation of a Cross-Linguistic Pictorial Socioeconomic Status Instrument for Illiterate and Diverse Global Populations in the Technological Age*”.

Contents in this review:

1. Main findings
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Main findings

- **Every exhibit of the paper has been reproduced accurately.**
- The code was successfully executed on a new computer after:
 1. R: Opening the R project "Replication.Rproj." Restoring the environment by running `renv::restore()` and following the prompts. Updating the working directory in line 22 of the script "main.R", and running it.
 2. Mplus: Open the standalone Mplus application and sequentially run the following syntax files located in the '02_Code' folder: '04_01_CFA_6Items.inp', '04_02_MI_Testing.inp', '05_SEM Correlation.inp'
- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.
- The code takes approximately 15 minutes to run.
- We conducted our reproducibility analysis based on the paper shared by the authors by email on September 16, 2026.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 1 type of data: restricted data.
 - Restricted data is obtained through a custom data license that allows for redistribution and is included in the reproducibility package. For more details, refer to the README file.

- *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks.

- **Reproducibility Summary:**

- **Data:** Data is obtained through a custom data license that allows for redistribution and is included in the reproducibility package. For more details, refer to the README file.
- **Code:** All code files (from cleaning to analysis) are included in the reproducibility package.
- **Outputs:** All outputs are generated by code included in the reproducibility package.
- **Dependencies environment:** The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Table 1** Does not apply. This table does not contain analytical output.
- **Table 2** Reproduced.
- **Table 3** Reproduced.
- **Table 4** Reproduced.
- **Figure 1** Does not apply. This figure does not contain analytical output.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise
- Processor: Intel(R) Xeon(R) Gold 5218 CPU @ 2.30GHz (2.30 GHz) (2 processors)
- Memory available: 16.0 GB
- Software version: R 4.5.3, Mplus 9.1.1 Demo